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BLOOD PLASMA PROTEIN PROFILING IN GALL BLADDER CANCER PATIENTS

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Abstract- Gallbladder cancer is a comparatively rare cancer and has poor outcome due to their anatomy and location. It is hard to diagnose gallbladder cancer in its early stages. Sometimes doctors find it when they remove the gallbladder for another reason. But people with gallstones rarely have gallbladder cancer. It is reported to be rare in India. However, the incidence of gallbladder cancer in north and central India is very high. It is the commonest gastrointestinal cancer in women. Even Indian migrants to different countries have a higher risk of having gall bladder cancers compared to the respective native populations. Some of the cancerous molecules may be available in the blood of cancer patient as compared to the normal person. There may be probability of the presence or absence of plasma protein in the blood.

KEYWORD: **-** Gall bladder cancer, Protein profiling, Plasma.

I. INTRODUCTION-

Cancer is an abnormal growth of cells caused by multiple changes in gene expression leading to deregulated mode of cell proliferation and ultimately evolving into a population of cells that can invade other healthy body tissues and can be carried to distant body sites by blood or lymph vessels. Gall bladder is a pear-shaped organ under your liver. It stores bile, a fluid made by your liver to digest fat. As your stomach and intestines digest food, your gallbladder releases bile through a tube called the common bile duct. The duct connects your gallbladder and liver to your small intestine. Cancer is an abnormality in the cell cycle. Due to this abnormality some of the molecules may be secreted and may be found in the blood as compared to the normal person. There may be probability of the presence or absence of some protein in the blood. In this paper we discuss about blood plasma protein profiling in Gall bladder Cancer patient by SDS PAGE.

II. MATERIAL AND METHODS:-

Collection of Sample and Preparation-

The blood samples were collected from different healthy individual and patients suffering from Gall bladder cancer at 50-65 age, come for treatment to Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow.
2 ml of intravenous blood from healthy individuals and Gall bladder cancer patients were taken in a test tubes contain 0.5M EDTA, then the sample were centrifuge at 8000 rpm for 10 minutes at room temperature. The supernatant was transferred in to sterile 2.0 ml micro centrifuge tubes and kept at 40^0C

Estimation of Protein- Protein estimation was done by the method of Lowery *et al*, 1951.

Protein Profiling by SDS PAGE- The principle of the separation of protein is based upon the size. The detergent (SDS) binds to proteins in a fixed weight ratio, approx 1.4 gm of SDS per gram of the molecule of protein which gives all molecules the same charge to mass ration. As the SDS bound protein are electrophoresis through the gel, the large molecules retarded more than the small ones by the sieving action of gel.

III. RESULT AND DISCUSSION:-

The SDS PAGE carried out with protein profiling of healthy individual as well as gall bladder causing cancer patient at 50-65 age. The patient are named as T1 to T6, where as healthy person names as C1. The molecular weight of plasma protein profiling in healthy person range is 5.18 to 3.42, whereas gall bladder cancer causing patient T1 range is 5.18 to 3.70 Kd, T2 & T3 range is 5.18 to 3.40 Kd, T4 & T5 range is 5.22 to 3.25 Kd and T6 range is 5.18 to 3.72 Kd. The extra plasma protein profiling band as show in T1, T4, T5 & T6, its molecular weight are 3.82 to 3.70., 3.25., 3.25., 3.82&3.72 Kd respectively. This is shown in Table.1, Fig.1 & Graph.1.
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Table 1: Molecular weight of plasma protein in gall bladder cancer patient.

S.NO	C1	T1	T2	T3	T4	T5	T6
1.	5.18	5.18	5.18	5.18	5.22	5.22	5.18
2.	5.10	5.10	5.10	5.10	5.15	5.15	5.10
3.	5.02	5.03	5.00	5.00	5.05	5.05	5.00
4.	4.99	4.99	3.82	3.82	5.02	5.02	4.85
5.	3.42	5.00	3.40	3.40	4.85	4.85	3.82
6.		3.82			3.25	3.25	3.82
7.		3.72					3.72

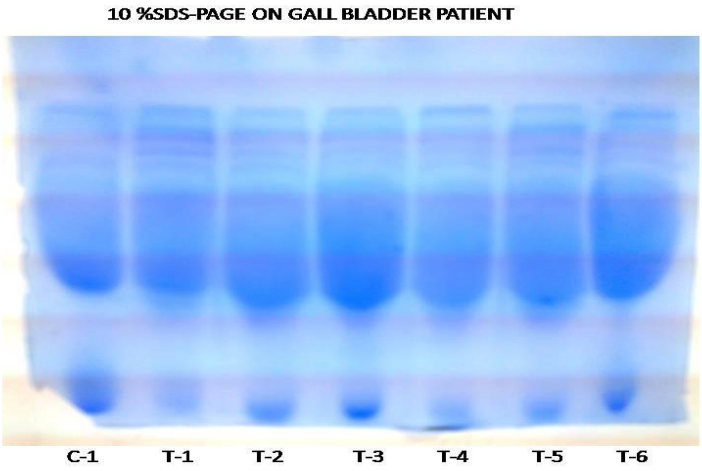
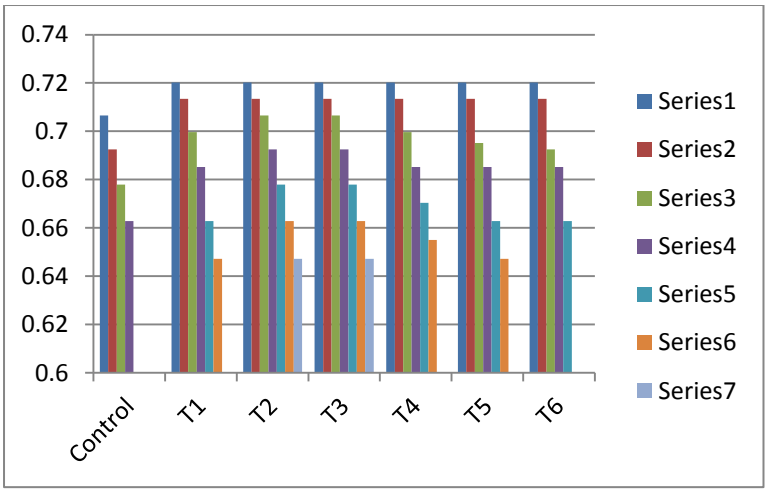


Fig.1- band of gall bladder cancer patient and normal person appear during SDS PAGE



Graph.1-This graph depicts the Protein profoling of gall bladder cancer Where, X-Axis for Group Y- Axis for Log mw.

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